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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
| 09/827,061 | 04/05/2001 | Chuan-Yu Hsu | YUSO-112 | 3443 |
| 7590 | | 05/09/2005 | EXAMINER | |
| Raymond Sun | | GIBBS, HEATHER D | | |
| 12420 Woodhall Way | | ART UNIT | | |
| Tustin, CA 92782 | | PAPER NUMBER | | |

2622
DATE MAILED: 05/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/827,061

Applicant(s)

HSU ET AL.

Examiner

Heather D. Gibbs

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 April 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-29 is/are rejected.
- 7) ☒ Claim(s) 1, 18 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 April 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. Claim 1 is objected to because of the following informality: Page 1 and Lines 15-17, contain an incomplete sentence –And, the plating films of....”. Appropriate correction is required.
2. Claim 18 is objected to because of the following informality: Insert “a” in the last line of claim 18, before –burnishing process--. Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.
4. Claim 1 recites the limitation "the light" in Page 12 line 7 and "the characteristics are" in Page 12 line 13. There are insufficient antecedent basis for these limitations in the claims.
5. Claim 15 recites the limitation “the light” in Page 14 Line 4. There is insufficient antecedent basis for this limitation in the claim.

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6. Claim 18 recites the limitation "said surface smoothness treatment" in Page 14 Line 17. There is insufficient antecedent basis for this limitation in the claim.
7. Claim 19 recites the limitation "the layer number of plating films" in Page 14 Line 22. There is insufficient antecedent basis for this limitation in the claim.

Drawings

8. Figure 2 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the examiner does not accept the changes, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-15,16-17,20-29 insofar as the claims are understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's admitted prior art and Vent (U.S. Patent No. 6,489,457).

Regarding claim 1, Applicant's admitted prior art optical chassis comprises all limitations claimed (Figs. 1 and 2, page 1 of the specification), except for the reflection elements of non-glass materials, and the direct connection and positioning of the reflection elements on the connection planes by a method of pasting. Applicant's prior chassis includes a shell body (141) having a hollow accommodating space and a pair of opposite inside walls, a plurality of reflection elements (mirrors 143) arranged inside the space at predetermined angles for making appropriate reflections of light entered into the shell (141), a lens set (144), and an imaging apparatus (145), which read on the claimed shell body, plural reflection elements, lens set and imaging apparatus, respectively. Applicant's prior art chassis further includes several inter-corresponding connection planes (to which elements 146 are disposed) formed on the two inside walls

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of the space at predetermined angles and positions, providing a connecting positions for the plurality of reflection elements (mirrors 143).

With regard to the claimed reflection elements of non-glass materials, direction connection and positioning of the reflection elements on the connection planes of the chassis by a pasting method, Vent discloses a non-glass reflective element (9) of a thin plate structure pasted on a frame surface (17) at a predetermine angle an position appropriate for reflecting light at a desired angle (Fig. 2). The non-glass reflective element (9, 20), which is a thin plate, has a reflective layer constructed of a chrome film (27) over which a clear substrate (29) is formed, and an adhesive layer (25). The reflective element (thin plate) (9, 20) also comprises two (outer) liners (23 and 31) for protecting the outside layers of the element (9, 20). These liners are removed during the pasting process of the reflective element/thin plate onto the connection plane (inner surface of 17) of the frame (17) to expose an adhesive layer (25) so that the layer (25) is adhered to the surface of the frame (17). The protective layer (31) is clear and is adhered to clear substrate (29 of 9 or 20) based on electrostatic forces (or with an adhesive that will be completely removed upon removal of the protective liner) (col. 4, lines 40-45). The reflective thin plate (9, 20) is made of flexible materials (27, 29, etc) and fits onto the connection plane, i.e., the surface of the frame (17) of a bending-shape.

The purpose of Vent's use of the reflective thin plate (9, 20) is to increase intensity of reflected light in a document image scanner with reduced cost and complexity (col. 2, lines 61-67). It would have been obvious to one of ordinary skill in

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the art at the time the invention was made to combine the teachings of Applicant's prior art and Vent in a way & that reflective thin plates (9, 20) of Vent are employed to replace mirrors (143) and associated supporting elements (146) of Applicant's prior art in order to provide an optical chassis of reduced cost and complexity and yet of high reflection efficiency as taught by Vent.

Regarding claims 2 and 3, see light source (142) and CCD of Applicant's prior art Fig. 2.

Regarding claim 4, which is representative of claim 24, according to Applicant's prior art Fig. 2, the connection planes of Applicant's prior art (Fig. 2) are inherently directly formed on the two inside walls of the shell body (141) by a plastic injection.

Regarding claim 5, which is representative of claim 17, Vent teaches wherein said reflection planes have been processed with surface polishing (Col 2 Lines 6-11).

Considering claim 6, which is representative of claim 22, Vent teaches wherein said plating films are coated with protection materials (Col 4 Lines 38-43).

Considering claim 7, which is representative of claim 23, Vent discloses wherein said protection material is macromolecular polymer with high light transmittance (Col 4 Lines 1-9).

Regarding claim 8, which is representative of claim 20, Vent discloses wherein said materials of said plating films may be one kind of the following materials: silver, chromium, aluminum, platinum, and their alloys (Col 4 Lines 1-20).

Considering claim 9, which is representative of claim 21, Vent discloses where said plating films are directly arranged on said reflection planes by one of the following

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methods: evaporating sputtering, sputtering and chemical disposition (Col 4 Lines 40-43).

Regarding claim 10, which is representative of claim 25, Applicant's admitted prior art teaches wherein said shell body comprises a lid body and a major body (Fig 1 prior art).

Regarding claim 11, Applicant's admitted prior art teaches wherein said lid body is provided with a light source supporting platform and a narrow long diaphanous groove for the provision of light which enters into said shell body (Figs 1-2 prior art).

Considering claim 12, which is representative of claims 26-27, Applicant's admitted prior art teaches wherein a light source supporting platform is further arranged on said major body to support a light source, and a narrow long diaphanous groove is arranged on said lid body corresponding to the position of the light source supporting platform for the provision of light which enters into said shell body (Figs 1 prior art).

Regarding claim 13, which is representative of claim 28, Applicant's admitted prior art teaches wherein at least one open hold is assistance for off-die is further arranged on the bottom of said major body (Fig 2 prior art).

Regarding claim 14, which is representative of claim 29, Applicant's admitted prior art teaches wherein several corresponding button-up structures, arranged respectively on the connection positions of each major body and lid body, directly buckle and fasten said two bodies together on a fixed position (Figs 1-2 prior art).

Claims 15-16 are representative of claim 1 and are rejected accordingly (See Fig 2 prior art).

Conclusion

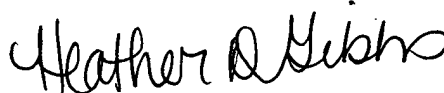
10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US Fang (6,619,807) Modularized Light-Guiding Apparatus and Manufacturing Method; Kaneko (US 6,081,630) Scanner System; Kaneko et al (US 6,160,641) Four-Plane Reflection Type Reflective Optical Unit and Scanner Optical System.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Heather D Gibbs whose telephone number is 571-272-7404. The examiner can normally be reached on M-Thu 8AM-6PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward L. Coles can be reached on 571-272-7402. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

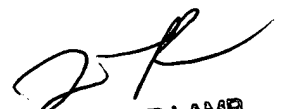


Heather D Gibbs

Examiner

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hdg



TWYLER LAMB
PRIMARY EXAMINER